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ABSTRACT

This paper discusses the processes that determine the characteristics of professional sub-cultures. It was postulated that mechanisms of attraction, formal and informal selection, promotion and reinforcement of desired characteristics serve to shape the personality which characterizes the members of a profession and can be expected to result in a common set of values, attitudes and skills. It was also postulated that these mechanisms could be investigated through use of self descriptions which identify the common beliefs, typical behaviors, preferences, and values of members of the profession. The Job Analysis and Interest Measurement (JAIM) was administered to beginning students at schools preparing candidates for five professions: social work, law, public administration, business administration, and army officer. The JAIM was again administered at the end of training to social work students and army officer candidates. Results supported the major hypotheses. Highly significant differences were found (1) among student groups preparing for different professions, (2) among students expressing preferences for different sub-specialties, (3) between students who dropped out of training and those who stayed, and (4) between scores for students obtained at the beginning and at the end of training. (AF)

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THE SHAPING OF PROFESSIONAL SUBCULTURES:

A STUDY OF STUDENT GROUPS FROM FIVE PROFESSIONS

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THE SHAPING OF PROFESSIONAL SUBCULTURES: A STUDY OF STUDENT GROUPS FROM FIVE PROFESSIONS

There is a mounting accumulation of research literature dealing with personality differences between professional groups. Students of the subject are in general agreement that every profession, over a period of time, develops a common set of beliefs, values, attitudes, and working styles which tend to characterize members of that profession. A professional subculture becomes established which tends to maintain a high degree of stability due to its implicit license to carry out unique activities in society and to regulate the admission of new members to its ranks. The specific mechanisms through which this stability is achieved include the attraction of particular types of personalities to a profession, the informal and formal selection process for entry into a profession, the formal professional training, and the reinforcement of desired characteristics and behavior within the profession.

Veblen as quoted by MacIver (1937) touched on aspects of this process when he stated, "The kind of work by which men live and particularly the kind of technique which that work involves ...

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is the influence which shapes men's thoughts, their relations with one another, their culture, and their institutions of control." As an example of the influence of occupation on personality, Waller (1932) did an early study of "What Teaching Does to Teachers." His impressions of the "teacher personality," 1932 model, are summarized by him in these words:

> There is first that certain inflexibility or unbendingness of personality which is thought to mark the person who has taught. That stiff and formal manner into which the young teacher compresses himself every morning when he puts on his collar becomes, they say, a plaster cast which at length he cannot loosen. One has noticed, too, that in his personal relationship the teacher is marked by reserve... As if this reserve were not in itself enough to discourage ill-considered advances, it is supplemented, when one has become very much the teacher, by certain outward barriers... Along with this goes dignity...that consists of an abnormal concern over a restricted role and the restricted but well defined status that goes with it... The didactic manner, the authoritarian manner, the flat assured tone of voice that go with them, are bred in a teacher by his dealings in the classroom... and it is said these traits are carried over by the teacher to his personal relations...If these traits... are found among the generality of teachers, it is because these traits have survival value in the schools of today. If one does not have them when he joins the faculty, he must develop them or die the academic death. (Quoted in Krech et al., 1962)

Anastasi (1964) after reviewing the research evidence concludes that while many promising hypotheses regarding occupational personality patterns have been proposed, as yet few differences have been conclusively established. Even when signi-

ficant personality differences are consistently identified between occupational groups, it is often difficult to analyze cause-effect relations. To what extent do salesmen become dominant and extroverted because of the demands of their jobs, and to what extent were they that way to begin with? Or, in the example cited above, it is impossible to know to what degree the 1932 teacher model sought this type of life and to what degree he was molded by the teacher role. Only longitudinal studies of the type reported below can answer these kinds of questions.

Kelly and Goldberg (1959) conducted a follow-up study of clinical psychologists and found that some of the measures used in their original study distinguished among subspecialties ten years later. Therapists scored high on measures of altruism and low on measures of social conventionality, exploitativeness, vocational indecisiveness, and scientific interest. Those who went into teaching scored high on measure of childhood rebelliousness, intrapsychic conflict, curiosity, scientific interest, creativity, and low on measure of social conventionality, exploitativeness, and vocational indecisiveness. In contrast, those who moved into administrative positions scored high on measures of social conventionality, exploitativeness, vocational indecisiveness, and low on measure of childhood rebelliousness,

intrapsychic conflict, curiosity, scientific interest, and creativity. The results seem reasonable in terms of the apparent psychological requirements and potentials of these three roles.

Another notable example of a longitudinal study is Terman's report of a follow-up of California children with initial Stanford Binet IQ's of 140 or higher. A comparison was made between men who eventually became physical scientists with those specializing in social sciences, law, or humanities. Significant differences were found on a number of variables such as early evidence of ability or interest in science by the scientific group and higher scores on social adjustment for the non-scientific group. (Terman, 1954)

A third example is the work done with the Strong Vocational Interest Blank (SVIB). Initially developed in 1928, the SVIB has been subjected to long-term evaluation. Preliminary research demonstrated that persons engaged in an occupation tend to have common interests, not only in job activities, but also in school subjects, hobbies, sports, types of plays or books, social relations, and the like. It thus proved feasible to question the individual about his interests in familiar things, and thereby determine the degree to which his interests resemble those of persons successfully engaged in various occupations. One follow-up study (Strong, 1955) reported that for a group which took the

SVIB while college students, the chances were 3.5 to 1 that a man who was given an "A" for a particular occupation would be employed in that specific occupation 18 years later. On the other hand, with a "C", the chances were 5 to 1 that he would not be so employed.

These longitudinal studies plus research such as that reported by Rosenberg (1957) offer suggestive evidence that cognitions, wants, interpersonal response traits, values, interests, and attitudes of the individual play an important part in his choice of an occupation or profession. This paper reports research that continues the investigation of factors involved in professional or occupational socialization and concerns the attitudes, work preferences, and values of persons entering five occupations: graduate students in Business Administration, Public Administration, Law, and Social Work and Army personnel in Officer Candidate School.

Mechanisms of Professional Acculturation

The relation between the personal characteristics of the individual and his occupation is a reciprocal one. The individual both selects and is selected; molds and is molded. For analytic purposes, it is desirable to identify as many of the influence factors and interactions as possible. With this end in view, a

series of propositions regarding mechanisms involved in the development of professional sub-cultures have been formulated as guides for analysis.

1. There tend to be common concepts or images about a profession among potential candidates for admission, which attract some and repel other individuals. People who apply for admission to a particular profession are different from those who do no apply.

2. There tend to be shared assumptions within the profession regarding the ideal person for the profession. Due to the operation of formal and informal selection standards based on these shared assumptions, persons who are selected for entry into a profession differ from those who are not selected.

3. After entering professional preparation, individuals have an opportunity to test themselves against the behavioral requirements, satisfactions, and value potential of their profession. People who stay in the professional educational programs are different from those who leave voluntarily.

4. After entering the profession, individuals are tested against performance standards enforced by the recognized authorities within the profession. Persons who stay and are promoted are different from those who are not promoted or are terminated.

5. Within any profession, certain behaviors and attitudes are reinforced positively and others are reinforced negatively. These positive and negative reinforcements, both formal and informal, change the personal characteristics of the individual members of the profession.

6. The breadth and flexibility of most professions permit different types of individuals to succeed for different reasons. Sub-specialties can thus be expected to develop within the larger professional culture based on different tasks performed in different settings and varied interpretation of goals. There are significant differences among persons following different sub-specialities within a profession but these differences are significantly less than the differences among professions.

In a dynamic society, it should always be assumed that important sub-specialities exist within every profession, making it necessary to include in studies of professions both the common cultural characteristics as well as the sub-specialty configurations. Grouping psychiatrists and surgeons together, even though both are medical doctors, would result in an imprecise description of both groups as would grouping trial attorneys with research lawyers who are uncomfortable in the courtroom. The pragmatic test for sub-specialties is the degree to which the members of a profession are interchangeable with a reasonable amount of training. Lack of interchangeability points to the existence of sub-specialties.

These mechanisms of attraction, formal and informal selection, promotion, and reinforcement of desired characteristics serve to shape the personality which characterizes the members of a profession and can be expected to result in a common set of values, attitudes, and skills. This process is often referred to as the "socialization" of the professional and is based on shared assumptions within the profession regarding the ideal philosophy, the ideal set of behavior, and the ideal person for the profession. The resultant personality structure consists of those interests, attitudes, values, modes of relating to others, and other characteristics that make the individual maximally receptive to the cultural ways and ideologies of his profession, that enable him to achieve adequate gratification and security within the profession.

Measurement Instrument

The research instrument used in the research herein reported, the Job Analysis and Interest Measurement (JAIM)[1], has evolved over a ten-year period through a series of studies of mature workers in over forty occupations and professions, including business executives, juvenile court judges, ambassadors, physicists, social workers, policemen, army officers, engineers,

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[1]Distributed for research purposes by the Educational Testing Service, Princeton, New Jersey. Studies using the JAIM are reported in Walther (1964, 1965), Walther and McCune (1965), Petersen and Lippitt (1968).

lawyers, and secretaries. The beginning point for the development of the JAIM was the discovery that certain self-description items answered by the U. S. State Department personnel when they entered on duty were useful in discriminating among employees assigned to different jobs, and in predicting both staying power and performance ratings within these jobs. These results led to the conclusion that the achievement of a satisfactory level of job satisfaction and performance requires an adequate psychological match between the job and the individual and that self-reported beliefs, typical behaviors, preferences, and values provide useful information for judging the adequacy of the match.

The notion that the study of the internal frame of reference of the individual is a useful approach for understanding behavior is consistent with the views of many personality theorists (Rogers, 1961; Combs and Snygg, 1959; Kelly, 1955; Rokeach, 1960). Kelly, for example, in proposing his psychology of personal constructs states that man creates his own ways of seeing the world in which he lives; the world does not create them for him. Thus, if we examine a person's philosophy closely, we find ourselves examining the individual himself. To understand how a person behaves, we need to know the manner in which he represents his circumstances to himself

The research leading to the development of the JAIM found persuasive support for Kelly's point of view regarding the importance of personal constructs and for the predictive power of self-descriptive statements. It also led to the conclusion that a useful way to subdivide personality variables for role or occupational analysis purposes is into behavioral styles, activity preferences, and values. In general, behavioral styles are the consistent ways in which individuals organize and direct their mental, physical, and energy resources to accomplish goals. Activity preferences reflect the anticipation of intrinsic satisfaction from the performance of certain types of tasks. Values are the criterion against which the individual judges the "goodness" or "badness" of the work. These variables influence the degree of occupational match as follows:

- Different roles or jobs have different behavioral requirements and provide varying opportunity for personal satisfaction and feeling of value;

- Individuals bring to their roles or jobs behavioral styles, activity preferences and values; and,

- It is the degree of match between the role or job and the individual in these dimensions, which significantly influences how well the individual will perform in or be satisfied with the role or job.

The measurement of behavioral styles, work preferences and values through self-descriptive statements raises two issues of theoretical concern--how accurately can an individual report on his own personality and how truthful will he be when he makes such reports? The first issue relates to the differing effects of unconscious and conscious motives and the second to the problem of response sets.

In the approach used with the JAIM, the crucial question is the relationship between beliefs and behavior. To deal adequately with his task environment, the individual needs (a) to know what he wants and what he does not want, (b) to obtain pertinent and reliable information about his environment, and (c) to make productive choices among the alternatives available to him. In making these decisions, he will be guided by his beliefs about the intentions of other people, his beliefs about his own ability to influence the outcomes of events, and his strategies--which are his notions about what will work for him. These beliefs can be reported by means of self-descriptive statements and can be used to predict behavior. Unconscious forces are assumed to be represented reliably but not necessarily accurately by these beliefs.

The amount of intentional distortion of responses is reduced in this study by administering the JAIM to cooperative subjects

under non-threatening circumstances. The effect of response set is kept to a minimum through use of a "forced choice" format.

The three clusters of personality variables (behavioral styles, activity preferences, and values) and the JAIM scales that measure them are discussed in the following sections. One scale, Academic Achievement, does not fit into any category and is defined in the appendix as are the other JAIM scales.

Behavioral Styles

Each of us functions in a world too complex for continuous, consciously determined response. Man can deal with a very limited amount of information at one time, yet there is an almost limitless amount of information which could be noticed, and an almost infinite number of decisions to be made and physical actions to be completed at the physiological, psychological, and sociological levels for the individual to function adequately in the world. Almost all determinations as to what to notice, what it means, what to do about it, and the actual physical manipulation of both the individual's internal and external environment need to be performed automatically through complex patterns of behavior which are available to the individual with a minimum of conscious effort.

We necessarily develop standard ways for dealing with recurring situations and reserve conscious information processing and decision making for more significant occasions. This organization gives rise to behavioral styles--characteristic types of performance, conscious and unconscious, in various life situations. An individual's behavioral styles are determined, in part, by his innate characteristics; his experience with what works and what does not work for him; and the social values he has acquired. Behavioral styles are very difficult to change because their elements work together as part of a functioning system. Experience sometimes results in slow change, but planned change requires the use of a good deal of conscious effort, frequently more than the individual is able or willing to spare.

It is impossible for an individual to have behavorial styles which will enable him to be equally effective in all types of situations. Behavioral organizations which lead to effective performance in one type of situation frequently lead to inefficient performance in other situations. An habitual response of one type can be expected to make other types of response more difficult.

The behavioral styles measured by the JAIM and their relevence to various occupations are outlined in the following six sections.

1. Personal Orientations

Important determinants of an individual's behavior are his beliefs about how he relates to the world and the nature of social control and change. Optimism, the degree to which the individual assumes that the intentions of other people are benevolent and that satisfactions can be expected in the natural course of events, has been found to be associated with promotion rate in a number of jobs. Self-confidence, the degree to which the individual believes that he can by his own action influence future events, distinguishes between persons occupying executive and clerical jobs. Moral absolutes, the degree to which the individual believes in moral absolutism and is opposed to relativism; and slow change, the degree to which the individual believes that changes should be made slowly, differentiates between individuals with a conservative and those with a liberal attitude toward society. Personal adjustment to most employment situations involves some degree of deferred gratification and some capacity to substitute future goals for immediate results. Thus, the individual needs to regulate and systematize his behavior and to organize and direct his energies toward future goals established both by society and by himself. JAIM scales measuring aspects of personal orientation are: Optimism, Self-Confidence, Moral Absolutes, Slow Change, Perserverence, Orderliness, and Plan Ahead.

2. Interpersonal Influence

Situations vary with respect to the requirement for relating to other people. Some situations call for a good deal of personal leadership or persuasiveness. Other situations call for behavior which is supportive and understanding of other people, and which helps maintain harmonious social relations. Still other situations require the individual to be assertive in the pursuit of his own goals when they are in conflict with the goals of others. Finally, there are situations in which there is only a minimal need for personally influencing the behavior of others. Ministers, Foreign Service Officers, and management interns were found to be high on persuasive leadership. Personnel officers and social workers tended to be supportive and understanding of other people. Business executives and security officers tended to be self-assertive, and code clerks and fiscal officers tended to score low on interpersonal influence scales. The specific JAIM scales in this category are Persuasive Leadership, and Self-Assertiveness.

3. Reaction to Aggression

Jobs differ in their requirements for dealing with aggresive behavior from others and people differ in their preferred styles. Some people respond to aggressive behavior by fighting, others respond by attempting to win over or appease the aggressor, and still others respond by psychological or

physical withdrawal. It is obviously desirable to be able to vary the strategy depending on the situation, but most people tend to rely on some strategies more than others. The more inflexible the individual, the more important that he obtain work which matches his style. Few of us could duplicate the performance of a first sergeant in whipping the raw recruits into shape. At the same time, we can expect that the qualities which make him a success with the troops would seriously limit his ability to be a successful labor negotiator.

The JAIM measures three styles for dealing with aggressor: Move Toward Aggressor, Move Away From Aggressor, and Move Against Aggressor. Secretaries and social workers tend to score high on Move Toward Aggressor, code clerks tend to score high on Move Away From Aggressor, and policemen tend to score high on Move Against Aggressor.

4. Relationship to Authority

In every job, power is exerted on the employee as a legitimate exercise of authority to get him to behave in certain ways needed to get the job done. In some jobs, it is important that specific orders be carried out or that specific procedures be followed. In other jobs, the individual needs to bring to the job internal standards which will guide his behavior. In still other jobs, the employee must be sensitive to non-verbal cues and be able to identify with the boss. These are alternative ways of

complying with authority, depending on whether the employee is expected to respond primarily to the commands, the standards, or the wishes of persons in authority. Still other jobs require that the employee be capable of going ahead on his own initiative or that he be capable of challenging or questioning authority.

A number of studies have shown that occupational groups differ significantly in their approach to authority. Code clerks, nurses, and policemen accept routines. They do not mind detailed instructions but do not particularly identify with or try to please their bosses. Secretaries, on the other hand, tend to identify with their bosses. Their personal radars are so sensitive that they frequently know what the boss wants done without being told. Foreign Service officers, business executives, and social workers prefer going ahead on their own. The specific scales included within this category are: Prefers Routines, Identifies with Authority and Prefers Independence.

5. Leadership Styles and Motivated Strategies

Authority in a formal organization can be exercised in a directive, participative or delegative manner. The boss can make all the decisions himself or he can delegate either to individuals or to the group as a whole. Each of these strategies

is appropriate to different types of situations, depending on whether maximum decisiveness or maximum resourcefulness is desired. A directive style is most effective: when there is adequate commitment by subordinates to the task; goals are specific; and conflicts of interest among units within the organization can be disregarded because of the strength of command from the top. The delegative style may be most effective when the goals and methods are ambiguous and it is desirable to tap the resourceful capabilities of all the members of the organization. The participative style is a combination of these two styles, gaining through greater commitment, utilization of intelligence of subordinates, and coordination of conflicting interests what it might lose in efficiency in action. Supervisors also differ in the types of controls they impose on subordinates and the types of incentives they offer. The JAIM measures the use of external versus internal controls and the use of intrinsic as opposed to extrinsic motivation. The specific scales included within the category are: Directive Leadership, Participative Leadership, Delegative Leadership, Motivated By Knowledge Of Results, and External Controls.

6. Information-Processing Behavior

Jobs differ in the manner in which information must be processed and decisions made. Sometimes rapid decisions are required involving only partially explicit considerations. In this case, an impressionistic, intuitive approach is most effective. A delayed response is often no response at all because the situation has changed and the opportunity to react has gone. Perhaps to the extent that success in an executive job depends upon effective interaction with other people, the executive needs to be capable of responding quickly; and, therefore, he must have the capacity to make quick intuitive decisions. In other jobs, the emphasis is on accuracy rather than speed; and the considerations can be made explicit. In this case, a rational, logical approach, based on a formal deliberate methodology, is most effective. This is the method which must be used by engineers and research scientists, and it was found that the JAIM information processing scale (Systematic-Methodical), does distinguish sharply between engineers, physicists, and fiscal officers on the one hand and Foreign Service officers and personnel officers on the other.

Work Preferences

Work preferences are the anticipation of intrinsic satisfaction from the performance of certain types of tasks. Individual difference in satisfaction derived from job performance can be partially described by a data-people-things trichotomy. Some individuals are more interested in work containing an intellectual challenge; others are more interested in working with people; and still others prefer to work with tools. Individuals also appear to differ in the amount of environmental stimulation they require, without which boredom influences their satisfaction and perhaps also their performance, and the degree to which they like to supervise the work of others, to work as a member of a group, or to work on their own. Scales included in this category are: Social Interaction, Problem Analysis, Mechanical Activities, Supervisory Activities, Activity - Frequent Change and Group Identification.

Values

Values are the criteria against which an individual judges the "goodness" or "badness" of behavior, including job-related behavior. Values are an essential component of an individual's self-concept and are reflected in the meaning the work has for the individual. Individual tasks performed in different contexts often differ dramatically in the degree to which they are valued. For example, clerical work in a hospital has quite a different meaning to individuals who value social service than does clerical

work in an insurance company. It is thus important to distinguish between the work preferences which result from the anticipation of satisfaction from the performance of specified occupational task and values which are the individual's standards for judging the worthwhileness of the work.

Work with the JAIM indicates that six value orientations are particularly useful in differentiating occupational groups or professions. The names of the scales measuring the values are: Status Attainment, Social Service, Approval from Others, Intellectual Achievement, Role Conformity, and Maintain Societal Standards.

Research Design

The JAIM was administered to beginning students at schools preparing candidates for five professions: social work, law, public administration, business administration, and army officer. The JAIM was again administered at the end of training to social work students and army officer candidates. A description of the specific professional samples follows:

1. Business Administration Students

These were candidates for the degree of Master of Business Administration at The George Washington University who completed the JAIM in the second month of the fall semester. Responses were received from 121 subjects, a completion rate of about 80 percent.

2. Public Administration Students

These were candidates for the degree of Master of Public Administration at The George Washington University. Responses were received from 105 subjects, a completion rate of about 70 percent.

3. Law Students

These were either first year or graduate law students at The George Washington University. They were requested to complete the JAIM during the second month of the fall semester. Usable responses were obtained from 244 subjects (129 undergraduates and 115 graduate), a completion rate of about 55 percent.

4. Army Officer Candidates

These completed the JAIM in the first week of a six-month program in an Army Officer Candidate School.[1] Usable responses were received from 500 subjects, a 100 percent completion rate. Three hundred and eighty candidates completed the JAIM again at the time they graduated from OCS. The remaining 120 candidates terminated from the program prior to graduation.

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[1]The data were collected by Peter B. Petersen in connection with his Masters thesis and Doctoral dissertation. Reports on the first phase of the study are contained in Petersen (1967), Lippitt and Petersen (1967), and Petersen and Lippitt (1968).

5. Social Work Students

These were first-year students at five graduate schools of social work: Tulane, Portland, Denver, Maryland, and Howard.[1] The JAIM was completed at the beginning of the academic year and usable responses were obtained from 436 subjects, a completion rate of about 85 percent. A sample of students from two of these schools were asked to complete the JAIM again at the end of two years. Usable responses were obtained from 52 subjects, a completion rate of about 40 percent.

The specific assumptions regarding acculturation mechanisms discussed above, together with data developed from earlier studies using the JAIM, produced the following study hypotheses:

1. The JAIM scores of students preparing for different professions differ significantly by profession.

2. The JAIM scores of students preferring different subspecialities differ significantly but the degree of this difference is less than the difference by profession.

3. The JAIM scores of students who continue in professional preparation differ significantly from the scores of students who do not continue.

4. The JAIM scores of students change significantly during the course of their professional education.

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[1]The data were collected by Shirley D. McCune in connection with her doctoral dissertation. A more complete report is contained in McCune (1966).

RESULTS

Hypothesis 1. The JAIM scores of students preparing for different professions differ significantly by profession.

As can be seen from Table 1, this hypothesis was overwhelmingly confirmed. The differences among groups on each of the 34 scales except one were significant well beyond the .001 level of significance. The greatest differences were found in the scales relating to values, leadership, and interpersonal behavior.

Insert Table 1 about here

The most differentiated groups were the social workers and the army officer candidates, but each group differed from the others in some important respect. The characteristics of each of the professional groups follow:

Business administration students were high on scales emphasizing status, self-assertiveness, leadership and aggressiveness. They tended to be low on both social service and intellectual achievement. Their high score on moral absolutes and orderliness may reflect a conservative attitude while their high score on participative leadership and their low score in directive leadership may be due to the human relations emphasis in courses comprising their academic program. Table 2 compares business administration students with all the other students.

Insert Table 2 about here

TABLE 1

STANDARD SCORES[1] ON JAIM SCALES FOR FIVE STUDENT GROUPS
AT BEGINNING OF PROFESSIONAL TRAINING

	Business Admin. Students N=121	Public Admin. Students N=105	Law Students N=244	Army Officer Candidates N=500	Social Work Students N=436	F Ratio
Personal Orientations						
Optimism	3	- 5	- 8	- 8	20	5.87***
Self Confidence	25	25	16	-37	-31	24.72***
Perseverance	16	- 7	4	9	-21	7.35***
Orderliness	32	-20	0	5	-19	8.60***
Plan Ahead	3	- 7	17	3	-15	4.98***
Moral Absolutes	35	-22	-17	32	-30	32.10***
Slow Change	13	-13	- 8	2	6	1.97
Interpersonal Influence						
Persuasive Leadership	20	9	30	-10	-49	33.64***
Self-Assertiveness	32	-16	11	52	-79	104.15***
Reaction to Aggression						
Move toward Aggressor	- 5	8	-20	-26	41	32.00***
Move away from Aggressor	-22	13	9	- 9	10	4.76***
Move against Aggressor	25	-21	- 4	24	-25	16.87***
Relationship to Authority						
Prefers Routines	- 3	-28	-22	32	23	19.76***
Identifies with Authority	- 6	14	-20	- 2	12	5.68***
Prefers Independence	- 1	22	16	-19	-18	9.86***
Leadership Styles and Strategies						
Directive Leadership	-28	-37	22	95	-50	133.82***
Participative Leadership	34	31	-35	-47	15	39.65***
Delegative Leadership	-11	- 5	14	-40	41	43.88***
Knowledge of Results	14	28	-14	-36	8	20.82***
External Controls	- 9	-43	22	83	-53	128.34***
Information Processing Style						
Systematic-Methodical	- 2	-25	- 3	58	-29	53.40***
Work Preferences						
Problem Analysis	- 2	40	24	- 4	-58	44.95***
Social Interaction	- 2	-40	-10	20	34	18.28***
Mechanical Activities	12	-21	-18	74	-45	94.79***
Supervisory Activities	50	7	1	-15	-44	29.58***
Activity-Frequent Change	16	-11	11	20	-34	19.35***
Group Participation	16	-12	-32	-11	40	29.13***
Values						
Status Attainment	40	16	32	11	-100	102.91***
Social Service	-40	-23	-32	-40	134	228.07***
Approval from Others	- 7	- 6	-27	-11	51	36.13***
Intellectual Achievement	-22	50	47	-31	-46	51.96***
Maintain Societal Standards	-15	-24	- 6	11	33	12.13***
Role Conformity	15	-20	-22	29	- 4	15.09***
Other						
Academic Achievement	5	35	23	-59	- 5	49.97***

[1]Norms based on the average of the means and the standard deviations for the five groups, with the average of the means set at 0 and the standard deviations at 100.

* = .05 level of confidence.
** = .01 " " "
*** = .001 " " "

TABLE 2

BUSINESS ADMINISTRATION STUDENTS COMPARED WITH
THE AVERAGE OF FIVE STUDENT GROUPS

High	Low
Supervisory Activities +++	Social Service ---
Status Attainment +++	Directive Leadership --
Moral Absolutes +++	Move Away from Aggressor -
Participative Leadership +++	Intellectual Achievement -
Self-Assertiveness ++	
Orderliness ++	
Self Confidence +	
Persuasive Leadership +	
Move Against Aggressor +	

Note:

A positive (+) sign indicates that the mean for the student group being studied is significantly higher than the mean for combinations of all five student groups. A negative (-) sign indicates that it is significantly lower.

One sign indicates .05 level of confidence; two signs .01, and three signs .001 level of confidence.

Public administration students were high on scales emphasizing intellectual activities and independence and low on scales emphasizing structure and controls. While they were similar to the business administration majors in favoring participative rather than directive leadership, they reported themselves as much less conventional and conservative in their social attitudes. Table 3 gives the results for public administration students.

Insert Table 3 about here

Law students were high in intellectual activities, persuasive leadership and status attainment and were low on scales reflecting a concern for the feelings of others. They favored the use of orders and external controls rather than participation when supervising subordinates. Table 4 gives the results.

Insert Table 4 about here

Army officer candidates were high on scales reflecting an authoritarian, conventional, and self-assertive attitude. They were low on scales reflecting concern for the feelings of others. They also did not consider themselves as academic achievers and did not value themselves in terms of their own intellectual attainments. Table 5 gives the results

Insert Table 5 about here

TABLE 3

PUBLIC ADMINSITRATION STUDENTS COMPARED WITH
THE AVERAGE OF FIVE STUDENT GROUPS

High	Low
Intellectual Achievement +++	External Controls ---
Problem Analysis +++	Social Interaction ---
Academic Achievement +++	Directive Leadership ---
Participative Leadership ++	Prefers Routines --
Self Confidence +	Orderliness -
Prefers Independence +	Moral Absolutes -
	Move Against Aggressor -
	Systematic-Methodical -
	Mechanical Activities -
	Social Service -
	Maintain Societal Standards -
	Role Conformity -

TABLE 4

LAW STUDENTS COMPARED WITH THE
AVERAGE OF FIVE STUDENT GROUPS

High	Low
Intellectual Achievement +++	Participative Leadership ---
Persuasive Leadership ++	Group Participation --
Status Attainment ++	Social Service --
Directive Leadership +	Move Toward Aggressor -
External Controls +	Prefers Routines -
Problem Analysis +	Identifies with Authority -
Academic Achievement +	Approval from Others -
	Role Conformity -

TABLE 5

ARMY OFFICER CANDIDATES COMPARED WITH
THE AVERAGE OF FIVE STUDENT GROUPS

High	Low
Directive Leadership +++	Academic Achievement ---
External Controls +++	Participative Leadership ---
Mechanical Activities +++	Delegative Leadership ---
Systematic-Methodical +++	Social Service ---
Self-Assertiveness +++	Self Confidence ---
Moral Absolutes ++	Knowledge of Results ---
Prefers Routines ++	Intellectual Achievement --
Role Conformity ++	Move Toward Aggressor -
Move Against Aggressor +	
Social Interaction +	
Activity-Frequent Change +	

Social work students were high on scales measuring a sympathetic and accommodating attitude toward people. They were low on self-assertiveness, strong controls, and intellectual activities. Table 6 gives the results for social work students.

Insert Table 6 about here

Hypothesis 2. The JAIM scores of students preferring different sub-specialities differ significantly but the degree of this difference is less than the difference by profession.

Ratings of sub-specialty preferences were obtained for two of the student groups--law students and social work students--and substantial support was found for the hypothesis that there are significant differences among people selecting different sub-specialties.

Among the social work students, 26 expressed a preference for community organization work, 19 for group work, 74 for psychiatric case work. These three sub-specialty preferences were judged to be the most distinctive among the nine options available to the subjects. Significant differences were found among the groups on 12 scales (See Table 7). The greatest differentiation was observed between community organization students and psychiatric case workers. Community organization students were more interested in intellectual activities and influencing other people while psychiatric case workers were more conservative and interested in inter-personal relationships (See Table 8).

TABLE 6

SOCIAL WORK STUDENTS COMPARED WITH
THE AVERAGE OF FIVE STUDENT GROUPS

High	Low
Social Service +++	Status Attainment ---
Approval from Others +++	Self-Assertiveness ---
Move Toward Aggressor +++	Problem Analysis ---
Delegative Leadership +++	External Controls ---
Group Participation +++	Directive Leadership ---
Social Interaction +++	Persuasive Leadership ---
Maintain Societal Standards ++	Intellectual Achievement ---
Optimism +	Mechanical Activities ---
Prefers Routines +	Supervisory Activities ---
	Activity-Frequent Change ---
	Self Confidence --
	Moral Absolutes --
	Systematic-Methodical --
	Perseverance -
	Move Against Aggressor -

TABLE 7

F RATIOS FOR DIFFERENCES IN MEANS ON JAIM SCALES FOR THREE SUB-SPECIALTY PREFERENCE GROUPS AMONG SOCIAL WORK STUDENTS

Scale	F Ratio
Personal Orientation	
Optimism	0.49*
Self Confidence	3.46
Perseverance	0.02
Orderliness	0.74
Plan Ahead	2.01
Moral Absolutes	0.45
Slow Change	4.13*
Interpersonal Influence	
Persuasive Leadership	4.90**
Self-Assertiveness	0.72
Reaction to Aggression	
Move Toward Aggressor	0.11
Move Away from Aggressor	1.12
Move Against Aggressor	1.55
Relationship to Authority	
Prefers Routines	2.60
Identifies with Authority	0.27
Prefers Independence	3.42*
Leadership Styles and Strategies	
Directive Leadership	6.57***
Participative Leadership	2.97
Delegative Leadership	0.38
Knowledge of Results	1.56
External Controls	5.08**
Information Processing Style	
Systematic-Methodical	3.25*
Work Preferences	
Problem Analysis	6.84***
Social Interaction	3.37*
Mechanical Activities	0.23
Supervisory Activities	4.96**
Activity-Frequent Change	4.01*
Group Participation	1.41
Values	
Status Attainment	1.19
Social Service	0.49
Approval from Others	1.58
Intellectual Achievement	3.58*
Maintain Societal Standards	0.81
Role Conformity	1.32
Other	
Academic Achievement	0.35

* = .05 level of confidence
** = .01 " " "
*** = .001 " " "

TABLE 8

COMMUNITY ORGANIZATION STUDENTS COMPARED WITH
PSYCHIATRIC SOCIAL WORKERS

Community Organization Students Higher N=26	Psychiatric Social Workers Higher N=74
Problem Analysis +++	Slow Change ++
Persuasive Leadership ++	Prefers Routines +
Directive Leadership ++	Participative Leadership +
Self Confidence +	Social Interaction +
Prefers Independence +	Group Participation +
External Controls +	
Supervisory Activities +	
Activity-Frequent Change +	
Intellectual Achievements +	

The preference for sub-specialties was studied somewhat differently with the law students. They were asked to rank a number of possible legal activities on a four-point scale ranging from "would like to specialize in" to "would refuse to handle." A comparison was then made between students who said they would like to specialize in an activity and those who said they would prefer not to handle the work or would refuse to do so.

Those students expressing a preference for corporation work placed high value on status and a low value on social service (see Table 9). Students expressing a preference for juvenile court work showed the exact opposite pattern (see Table 10). Those preferring corporation law also reported considerable self-discipline while those reporting a preference for juvenile court work were more concerned about other prople. These results are consistent with a previous study of juvenile court judges using the JAIM as the measuring instrument (Walther and McCune, 1965). Students preferring defense attorney work, on the other hand, valued intellectual activities, were self-assertive and aggressive and preferred independence (see Table 11).

Insert 9, 10, 11 about here

TABLE 9

LAW STUDENTS WHO WOULD LIKE TO SPECIALIZE IN CORPORATION LAW COMPARED WITH THOSE WHO WOULD NOT

Prefer Corporation Law N=78	Dislike Corporation Law N=35
Perseverance +++	Social Service ++
Status Attainment ++	
Orderliness ++	
Systematic-Methodical +	
Supervisory Activities +	

TABLE 10

LAW STUDENTS WHO WOULD LIKE TO SPECIALIZE IN JUVENILE COURT WORK
COMPARED WITH THOSE WHO WOULD NOT

Prefer Juvenile Court Work N=14	Dislike Juvenile Court Work N=67
Social Service +++	Status Attainment ++
Participative Leadership ++	External Controls +
Approval from Others ++	Motivated by Knowledge of Results +
	Supervisory Activities +

TABLE 11

LAW STUDENTS WHO WOULD LIKE TO BE DEFENSE ATTORNEYS
COMPARED WITH THOSE WHO WOULD NOT

Prefer Defense Attorney Work N=25	Dislike Defense Attorney Work N=76
Intellectual Achievement +++	Prefers Routines +
Self-Assertiveness ++	Orderliness +
Prefers Independence ++	
Self Confidence +	
Move Against Aggressor +	

Hypothesis 3: The JAIM scores of students who continue in professional preparation differ significantly from the scores of students who do not continue.

Selection data were available for the army officer candidates participating in the six-months OCS program. From the initial group of 500 candidates, 297 graduated on schedule, 83 were delayed for various reasons but were eventually graduated, and 120 never graduated. Among the non-graduates, it proved impossible to differentiate between candidates who withdrew voluntarily and those who were terminated from the program. Of the 120 who did not graduate, only 13 were officially terminated. There was indication, however, that a large number of those who were listed as voluntary resignations would have been terminated if they had not chosen to resign. The greatest differences were found between the normal graduates and the drop-outs (see Table 12) with the delayed graduates falling in between. It can thus be concluded that there are significant differences between successful candidates and unsuccessful candidates.

Insert Table 12 about here

TABLE 12

ARMY OFFICER CANDIDATES COMPLETING OCS DURING A NORMAL TIME PERIOD
COMPARED WITH CANDIDATES WHO DID NOT COMPLETE TRAINING

Normal Graduation Candidates Higher N=297	Terminated Candidates Higher N=120
Self Confidence +++	None
Activity-Frequent Change +++	
Social Interaction +++	
Supervisory Activities ++	
Persuasive Leadership ++	
Knowledge of Results ++	
External Controls +	
Status Attainment +	
Academic Achievement +	
Maintain Societal Standards +	

Hypothesis 4: The JAIM scores of students change significantly during the course of their progressional education.

The JAIM was administered to social workers and army officer candidates at the beginning and at the end of their professional training. The interval for army officer candidates was six months and for social workers, two years. The most conclusive results were obtained for the officer candidates as shown by Table 13. Data for fourteen classes were combined into four groups of successive classes and comparisons made between the before and after scores of individuals. The results for the four groups proved to be remarkably similar after six months of OCS training.

Insert Table 13 about here

While significant change associated with training was found among the social work students, the pattern was much less dramatic than it was for the army officer candidates. A number of factors may be operating. For one thing, the social work students had already committed themselves to a social work career before entering and relatively few dropped out during the training period. The army officer candidates, on the other hand, had not necessarily selected the army as a career. Many of them were serving their military obligations and planned to return to civilian life. It may also be true that the Officer Candidate School has clearer

TABLE 13

CHANGE IN JAIM SCORES OF ARMY OFFICER CANDIDATES
ASSOCIATED WITH OCS TRAINING

	Group 1 (N=66)	Group 2 (N=92)	Group 3 (N=90)	Group 4 (N=65)
Self Confidence	3.11**[1]	2.86**	3.28**	4.12***
Perseverance	1.87	2.80**	3.16**	3.49**
Orderliness	1.87	.98	3.42**	1.92
Slow Change	.78	2.78**	1.63	1.71
Persuasive Leadership	3.35**	4.48***	4.21***	5.10***
Self-Assertiveness	3.28**	3.80***	3.91***	3.49***
Move Toward Aggressor	-1.54	-2.97**	-2.00*	-3.51***
Move Away from Aggressor	-2.82**	-2.15*	-1.07	-3.20**
Move Against Aggressor	4.45***	3.32*	2.74**	3.37**
Directive Leadership	3.16**	3.35**	1.72	2.43*
Participative Leadership	-3.80***	-3.63***	-2.11*	-2.68**
Knowledge of Results	2.51*	2.35*	.25	3.56***
External Controls	3.05**	3.84***	4.35***	5.66***
Systematic-Methodical	-2.34*	- .57	-2.67**	-1.99
Supervisory Activity	2.76**	4.62***	1.55	3.07**
Activity-Frequent Change	1.45	2.95**	2.59*	.44
Approval from Others	-4.97***	-5.22***	-3.51***	-7.81***

[1]Refers to t-test values for the differences between means on before and after measures for the same individual. A plus (+) value indicates that the mean score at end of training was higher than the beginning score. A minus (-) sign indicates the opposite.

definitions of its goals than do the social work schools. Nevertheless, the results for the social work students for two separate schools were consistent and indicate that graduates are more independent, less likely to accept routines or emphasize orderly procedure than they were when they started the social work curriculum (see Table 14).

Insert Table 14 about here

TABLE 14

CHANGE IN JAIM SCORES OF SOCIAL WORK STUDENTS
ASSOCIATED WITH SOCIAL WORK TRAINING

	School 1 (N=25)	School 2 (N=27)	Total (N=52)
Orderliness	-2.78**[1]	-5.61***	-5.46***
Prefers Routines	-3.58**	-3.20**	-4.78***
Prefers Independence	3.92***	2.77*	4.58***
Directive Leadership	-2.90**	- .10	-1.99
Delegative Leadership	1.55	1.25	2.00
Academic Achievement	1.55	2.29*	2.69*

[1]Refers to t-test values for the differences between means on before and after measures for the same individual. A plus (+) value indicates that the mean score at end of training was higher than the beginning score. A minus (-) value indicates the opposite.

Discussion

The results of this research emphatically supported the major study hypothesis. Highly significant differences were found (a) among student groups preparing for different professions, (b) among students expressing preferences for different sub-specialties, (c) between students who dropped out of training and those who stayed, and (d) between scores for students obtained at the beginning and at the end of training. It can thus be concluded that the forces which mold the personality of a profession are complex but can be studied through self-descriptive statements from individual members of professional groups.

Looking at this process from the point of view of the individual, it seems clear that he brings certain qualities with him when he enters the profession and is changed to some degree during the process of professional education and socialization. From the institutional point of view, it is apparent that out of the total population of individuals attracted to the profession, certain types are selected and then promoted and others are rejected or encouraged to leave after having been accepted.

The design of the study, unfortunately, did not permit a determination of the degree to which the qualities of persons entering the profession result from choice on the part of the individual or

selection decision on the part of the institution. In view of the large differences among professional groups, it seems reasonable to assume that future studies will show that a substantial portion of the difference results from choice on the part of the individual and that persons who choose different professions differ significantly from each other. Support for this conclusion is found in the data showing that individuals selecting different sub-specialties within a profession differ significantly from each other. In future studies, it would be useful to design the research so more precise differences can be identified between the effects of choice by the individual and selection procedures by the institution.

The observed differences between groups or the observed changes in individuals over time appear to be interpretable, for the most part, on the bases of (a) the actual or expected behavioral requirements, satisfactions, and value potentials provided by the profession or sub-specialty, and (b) the selection criteria or reinforcement patterns found within the profession. JAIM scores can thus be used to establish hypotheses with respect to casual relationships. For example, it was found that among law students, those who prefer corporation law value status attainment, those who prefer juvenile court value social service, and those who prefer specializing in defense attorney work prefer independence and the opportunity to be self-assertive. These differences among law students preferring different sub-specialties appear to be reasonable on the basis of a logical

analysis of the work involved and can be used as hypotheses for research designed to determine whether the differences reflect only the expectations of students or reflect also realities of the work in the sub-specialties.

The most dramatic results of the research were the consistent differences found to occur in individuals in the course of professional training in Army Officer Candidate School. Social work students also changed consistently but not as dramatically. These results will be used in the following sections to show how changes in JAIM scores can be used to generate hypotheses.

Effect of OCS Training

A 1966 publication describes the mission of Army Officer Candidate Schools as follows: "the mission of...officer candidate schools is to develop combat leaders. These schools emphasize the development of practical leadership, physical stamina, and the mastery of tactics and weapons." The standards of officer candidate school require that a candidate have the potential ability to become a leader in combat. "The rigorous program of training and discipline furnishes the means of confirming whether a candidate possesses the potential ability to become a combat leader. The school's further function is to develop this ability, once it is recognized, by teaching the professional knowledge needed for successful leadership in combat." The major emphasis is placed on the development of the

candidate's leadership ability, "The twenty-three week course of instruction...revolves around the development of leadership ability. The candidate must be able to stand on his own two feet and direct the operations of small units. In order to develop leadership, the candidates are given an intensive course in the theory of leadership plus considerable practical work...candidates are rotated through various command positions...in addition, candidates are required to hold instruction periods and present talks on various military subjects such as dismounted drill, physical training, army information, and military history." (Quoted in Petersen, 1967).

Physical fitness is developed and maintained by a scheduled program as well as off-duty workouts. Several physical fitness tests administered during the course provide an incentive as well as a measure of the improvement of the student's physical fitness.

The tactical officer plays an important role in shaping the behavior of each candidate and the performance of each candidate is observed continuously by him. The tactical officer's principal duty is to assist candidates in successfully completing the course. This is done by advising candidates on their deficiencies and on ways to overcome them. It is not uncommon for candidates to spend long hours of their "free" time working to overcome deficiencies which otherwise would detract from leadership ability after graduation.

The powerful effects of the rigorous officer candidate school program are described in the following quote:

> "The hopeful candidate is now subjected to a nearly catastrophic experience, which breaks down to a large extent his previous personality organization. His previous validations fail him, and in order to find a basis for self-respect, he must adopt new standards or escape from the field. His high motivation to become an officer usually rules out the latter alternative. At the same time, new appropriate attitudes are built up and established. The catastrophic experience provides a kind of purgatory, a definite demarcation from the candidates enlisted incarnation that puts a barrier between the new officer and his enlisted memories. It has some of the characteristics of a conversion experience, or the ordeal of a medieval knight. The effect of this ordeal on the officer candidate is not only to attack his previous personality, but exert a positive influence in the desired direction." (Stouffer, 1949).

The above quote is based on World War II OCS practices. While there have been some changes during the last twenty years, it is still a substantially accurate description of current practices.

At least three sets of forces determine the characteristics of the graduate as compared with the beginning candidate: (a) decisions made by administrators of the school regarding qualifications for graduation, (b) decisions made by candidates not to continue in the program, (c) changes in individuals during the training period. The data did not permit a distinction to be made between terminations from the program resulting from decisions made by the administrators or by the candidates. Therefore, in this study, all terminations are considered together.

Both the selection process and the conditioning during training significantly increased group scores[1] on the following scales:

- Self Confidence
- Persuasive Leadership
- Self-Assertiveness
- Knowledge of Results
- External Controls
- Supervisory Activities
- Activity-Frequent Change

It can be hypothesized from these results that this shaping process emphasizes an insistence on immediate task performance with the results obtained through persuading, directing, or supervising other people.

The selection but not the conditioning process significantly increased group scores on the following additional scales:

- Social Interaction
- Status Attainment
- Maintain Societal Standards
- Academic Achievement

It might be concluded from these results that academic ability, a liking for people, ambition, and the internalization of societal standards help the candidate complete the course.

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[1] A one-tailed test of significance was used since the direction of change could be predicted.

The conditioning process but not selection resulted in changes in the following scales:

Training Increased Scores	Training Decreased Scores
Perseverance	Move Toward Aggressor
Orderliness	Move Away From Aggressor
Slow Change	Participative Leadership
Move Against Aggressor	Systematic-Methodical
Directive Leadership	Approval From Other

It appears from these results that training is a more powerful influence agent than selection and that it serves to increase the aggressiveness of the candidates and decrease their need for approval.

It is noteworthy that, for the most part, the change is away from the means of the combined means of the student groups. Table 15 shows the results of the shaping process on army officer candidates. It thus appears that initial selection, selection during training, and change associated with training operate together as cooperative processes determining the characteristics of the members of the army officer profession.

Insert Table 15 about here

The changes in JAIM scores indicate that candidates are molded into the behavioral styles required to become successful junior officers. The graduating student is action-oriented with a greater concern for the mission than for the welfare of his subordinates. This does not, however, imply necessarily that he is not concerned with their welfare. It does imply that concern for subordinates is

TABLE 15

JAIM SCORES OF ARMY OFFICER CANDIDATES SHOWING COMBINED EFFECT OF SELECTION AND TRAINING

Scales	Beginning Students N=500	Normal Graduates N=297	
		Before Training	After Training
Self Confidence	- 37	- 17	8
Perseverance	9	8	38
Orderliness	5	5	25
Slow Change	2	- 6	18
Persuasive Leadership	- 10	- 2	32
Self-Assertiveness	52	56	85
Move Toward Aggressor	- 26	- 28	- 56
Move Away from Aggressor	- 9	- 9	- 28
Move Against Aggressor	24	25	60
Directive Leadership	95	98	131
Participative Leadership	- 47	- 48	- 86
Knowledge of Results	- 36	- 17	- 4
External Controls	83	85	130
Systematic-Methodical	58	64	39
Supervisory Activities	- 15	- 4	25
Activity-Frequent Change	20	29	45
Approval from Others	- 11	- 14	- 64

second to the accomplishment of the mission. It seems reasonable to assume that these changes in the behavioral style help the graduating student to accomplish the short-range goals of his vocation such as leading a platoon or commanding a company in combat. It also appears that the officer candidate school is very effectively accomplishing its goal of changing the candidate in a way which helps him fill the role of the junior officer. It is not nearly as certain that these changes are consistent with the requirements for higher level positions in the military service. It has been speculated that the behavioral style of the typical graduate student is best suited for leading a platoon in combat. This style is needed to deal with violence and to make correct decisions quickly in times of crisis. Subsequent duties following about eight years of company grade assignments probably will require other behavioral styles. Prior to that time, these men will perhaps need additional training to equip them for the newer roles.

Effect of Social Work School

The purpose of a social work curriculum is to prepare students to enter the profession of social work. Even though the period between the before and after measures was much longer for the social work student (two years as compared to six months for the army officer candidates), the change found was much less dramatic. This may be due to a number of factors.

In the first place, social work students are for the most part already committed to the profession when they enter social work school. Selection procedures include a careful screening process and many students have already had part-time or full-time work experience in social work. Very few drop out or are asked to terminate during the educational experience in contrast with the army officer candidate, a large proportion of whom were drafted into the army and had not committed themselves to a career as an army officer. This means that the entering social work student probably already has styles which match the requirements of a social work career.

A second factor is probably the broader range of educational goals of the social work school. These schools are expected to prepare students who are capable of functioning in a variety of jobs in different agency settings. The curriculum is conceived as a generic curriculum and the classroom experience of those who work in correctional settings, psychiatric settings, administrative settings, community settings, etc., would be similar although field work experiences would differ. The social work graduate is considered to have beginning competency for practice and it is clearly understood that additional experience is needed through work experience, agency supervision, in-service training programs, and continuing education. Thus, the goals of the educational experience are not as clearly defined as those of the army officer school.

The educational experience of the social work student is much less intense than that of the army officer candidate in that the amount of time spent with faculty and other students is greater for the army officer candidate by nature of the intensive schedule and living arrangements, despite the longer duration of the social work education. Social work students in this study represented two different schools and within each school, they related to a greater number of instructional resources in a more diluted fashion.

Lastly, the social work profession has been undergoing a great amount of introspection regarding the purpose of social work education. The profession itself is continually faced with great changes for new practitioner roles. This dilemma was stated by Bartlett (1960) as the "inability of the profession to state clearly what knowledge, skill and values are needed for every social workers for basic competence and skill." In 1964, French emphasized the need for research on the impact of organizational structures and policies on career patterns; and the congruity or disparity between the values, attitudes, and skills acquired through professional education and those given support and recognition in the employing organization." Pins (1967) states the dilemmas of social work education as dealing with the need for quantity of practioners, the conflict between the old and new practices of social work, and the different approaches to helping the individual or changing the society.

The above factors can be expected to increase the variety of influences operating to determine the characteristics of the social worker. In view of all the possible sources of "static" within the socialization processes of these social work students, it is significant that the same changes in scores were found for two samples selected from different schools and that this pattern in no respect overlapped the change pattern for army officer candidates. Changes on two of the scales (Orderliness and Directive Leadership) were significant or close to significant at the .05 level of significance for both student groups, but in opposite directions.

The increase in score on the Academic Achievement scale probably reflects the fact that most social work students earn better grades in graduate school than in their undergraduate programs. Based on the finding that average scores increased on Independence and Delegative Leadership and decreased on Accept Routines and Orderliness, it can also be assumed that the educational program develops independence and reduces dependence on structure and routines. Whether these changes are relevant to the effectiveness of a social worker would need to be determined through research designed to test this question.

Summary

This paper describes an approach to the study of the processes which determine the characteristics of professional sub-cultures. It was postulated that mechanisms of attraction, formal and informal selection, promotion, and reinforcement of desired characteristics serve to shape the personality which characterizes the members of a profession and can be expected to result in a common set of values, attitudes, and skills. It was further postulated that these mechanisms could be investigated through use of self-descriptions which identify the common beliefs, typical behaviors, preferences, and values of members of the profession.

The measurement instrument used was the Job Analysis and Interest Measurement (JAIM) which was evolved over a ten-year period through a series of studies of mature workers in over forty occupations and professions. The JAIM is based on the conclusion that a useful way to subdivide personality variables for role or occupational analysis purposes is into behavioral styles, activity preferences, and values.

The JAIM was administered to beginning students at schools preparing candidates for five professions: Social work, law, public administration, business administration, and army officer. The JAIM was again administered at the end of training to social work students and army officer candidates. The results provided support for the

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following hypotheses:

1. There are highly significant differences among students preparing for different professions.
2. There are highly significant differences among students preferring different sub-specialties but these differences are less than the differences among professional student groups.
3. There are highly significant differences between those who drop out of training and those who stay.
4. There are highly significant differences between JAIM scores obtained at the beginning as compared with those obtained at the end of training.

The observed differences between groups or the observed changes in individuals over time appear to be interpretable, for the most part, on the basis of (a) the actual or expected behavioral requirements, satisfactions, and value potentials provided by the profession or sub-specialty, and (b) the selection criteria or reinforcement patterns found within the profession.

Appendix

Definitions of the Scales of the Job Analysis and Interest Measurement

A. Personal Orientations

1. Optimism

This scale measures the degree to which the individual assumes that the intentions of other people are benevolent and that satisfactions can be expected in the natural course of events. Persons scoring high consider themselves lucky; never or seldom left out of things in group activities; and almost always have had supervisors who praised them and gave them credit for work well done.

It was found to correlate positively with the Q sort based on comparison between rating with ideal rating (.56) and the Edwards Affiliation scale (.42), and negatively with the MMPI Social Isolation (-.55) and Depression (-.54) scales. Foreign Service secretaries, Peace Corps volunteers and social workers scored high on it and patients committed to a mental institution for criminal acts scored very low.

2. Self Confidence

This scale measures the degree to which the individual believes that he can, by his own action, influence future events. Persons scoring high on this scale report that they often become enthusiastic over new things or new plans; that their ideas are often considered unusual and imaginative; and that they work well under stress. Individuals scoring low report they get away by themselves when they are troubled; and that they do not perform well under stress.

It should be noted that the Optimism and the Self Confidence scales do not always correlate. Some individuals score about the same on both. Other individuals, however, score high on one and average or low on the other. Self Confidence was found to correlate positively with a Q sort based on a comparison between self ratings and ideal ratings (.50), and negatively with the Edwards Abasement (-.59) and the MMPI Social Isolation (-.48) scales. Presidents of business corporations scored highest among all the occupations studied and police patrolmen scored lowest.

3. Perseverance

This scale measures the degree to which the individual keeps at something even when he is not particularly interested in it. Persons scoring high say that when working on a hobby, they concentrate for long periods of time and complete each project they start; that they do not tire easily and can work long and steadily; and that other people seldom find something after they have tried and given up. Individuals scoring low say that when they have something to do that doesn't interest them, they either do it after considerable pressure is put upon them or they seldom get around to doing it.

In the one study in which this scale was used, police patrolmen were found to score significantly higher than welfare workers.

4. Orderliness

This scale measures the degree to which the individual has internal standards which he follows. Persons scoring high say that they like work which requires them to be extremely accurate; that they are usually orderly; and that they get up about the same time each morning and do not like to stay in bed later than their getting up time.

It was found to correlate positively with the Study Habits scale (.44). Engineers scored high on it and social workers scored low.

5. Plan Ahead

This scale measures the degree to which the individual is a self-starter and directs his own activity toward goal achievement. Persons scoring high say that they get best results when they establish long-range goals and follow them as much as they can; and that they are generally striving to reach some goal they have established for themselves.

No data is available regarding the correlations between this scale and scales from other instruments or how different occupations or professions score on it.

6. Moral Absolutes

This scale measures the degree to which the individual believes in moral absolutes. Persons scoring high believe that moral principles come from an outside power higher than man; and that it is most important to have faith in something. Individuals scoring low believe that moral principles are not absolute and unchanging but depend upon circumstances.

Juvenile court judges and police youth officers scored significantly higher than social workers and Foreign Service officers.

7. Slow Change

This scale measures the degree to which the individual believes that change should be slow. Persons scoring high say that it is usually best to do things in a conventional way; and that when things are going smoothly it is best not to make changes which will disrupt things. No data is yet available about how this scale correlates with scales from other instruments or how different occupations or professions score on it.

B. Interpersonal Influence

8. Persuasive Leadership

This scale measures the degree to which the individual exerts leadership in interpersonal situations. Persons scoring high report that they have no difficulty giving a speech or reciting before a large group; that they often take the leadership in groups; and that they like best in a job the opportunity to get results through persuasion or negotiation.

It correlated positively with the Edwards Dominance (.59) and the MMPI Hypomania (.44) scales and negatively with the MMPI Social Isolation (-.43) and the Edwards Abasement (-.42) scales. Presidents of business corporations, juvenile court judges and Foreign Service officers scored high on this scale and Foreign Service code clerks and police patrolmen scored low.

9. Self-Assertiveness

This scale measures the degree to which the individual tends to pursue his own goals when they are in competition with the goals of others. Persons scoring high say that it is important to avoid being diverted from doing what is right in order to please someone; that they do better under competition or stress; and that they are proficient in athletic games.

It correlated positively with the Kuder Outdoors (.41) and the MMPI Hypomania (.37) scales, and negatively with MMPI Masculine-Feminine scale (-.47). Presidents of business corporations were very high on this scale.

C. Reaction to Aggression

10. Move Toward Aggressor

This scale measures the degree to which the individual tries to "pour oil on troubled waters" when someone acts toward him in a belligerent or aggressive manner. Persons scoring high say that when a person behaves toward them in a dictatorial or domineering fashion, they try to win him over.

It did not correlate significantly with scales from other instruments which were studied. Juvenile court judges, and welfare workers scored high and patients committed to a mental institution for criminal acts scored low.

11. Move Away from Aggressor

This scale measures the degree to which the individual withdraws when someone acts toward him in a belligerent or aggressive manner. Persons scoring high say that when a person acts toward them in a dictatorial or domineering fashion, they keep away from him if they can.

It correlated positively with the Edwards Abasement (.45) and the MMPI Social Isolation (.37) scales, and negatively with the Edwards Dominance (-.46) and Aggression (-.43) scales and the MMPI Hypomania scale (-.41). Foreign Service Code clerks scored high on this scale and business executives low.

12. Move Against Aggressor

This scale measures the degree to which the individual counterattacks when someone acts toward him in a belligerent or aggressive manner. Persons scoring high say that when someone crowds ahead of them in line, they do something about it; and if someone acts toward them in a dictatorial or domineering fashion, they seek an occasion to have it out with him.

It correlated positively with the Edwards Aggression scale (.52), and negatively with MMPI Lie (-.44) and the Edwards Abasement (-.42) scales. Business executives and police patrolmen scored high on this scale and Foreign Service secretaries and code clerks scored low.

D. Relationship to Authority.

13. Prefers Routines

This scale measures the degree to which the individual likes to have definite procedures available which he can follow. Persons scoring high say they like to have a clear cut written guide line or manual which tells them clearly what they are supposed to do.

It correlated positively with the Edwards Deference scale (.51) and negatively with the Edwards Autonomy (-.45 and the Otis Test of Mental Ability (-.42) scales. Foreign Service code clerks and police patrolmen scored high on this scale and Foreign Service officers and Episcopal ministers scored low.

14. Identifies with Authority

This scale measures the degree to which the individual identifies with his superior and tries to please him. Persons scoring high say that they like to work closely with, and be of help to, a superior doing important and interesting work; that their supervisors, for the most part, have always been helpful and understanding; that they received high grades while in high school and that they were either obedient toward or tried to please their parents as an adolescent.

It correlated positively with the Edwards Deference (.44) and Study Habits (.44) scales, and negatively with the Edwards Autonomy (-.51) and MMPI Psychopathic Deviate (-.34) scales. Foreign Service secretaries consistently score high on this scale and in several studies it has been found to be the best predictor of performance for this occupational group. On the other hand, patients committed to a mental hospital for criminal acts scored low.

15. Independence

This scale measures the degree to which the individual likes to act on his own. Persons scoring high say they were independent toward their parents during adolescence; that they have no fixed pattern for getting up in the morning and sometimes get up early and sometimes sleep late; and that it is most important to teach children to be self reliant.

It correlated negatively with the Q sort based on a comparison between self ratings and ideal ratings (-.41). Foreign Service officers scored high on this scale and policemen scored low.

E. Leadership Styles and Strategies

16. Directive Leadership

This scale measures the degree to which the individual believes that an executive gets the best results by making decisions himself. Persons scoring high say that an effective supervisor assigns each subordinate a specific job to do and sees that he does it the way it is supposed to be done.

It correlated negatively with the Kuder Literary Scale (-.41). Business executives and police patrolmen scored high on this scale and social workers scored low.

17. Participative Leadership

This scale measures the degree to which the individual believes that executives get best results by having the work group participate in decision making. Persons who score high say that it is most important that a supervisor develop a strong sense of responsibility in the work group as a whole.

In one study it was found that social workers scored high on this scale and police patrolmen scored low.

18. Delegative Leadership

This scale measures the degree to which the individual believes that the executive gets best results by delegating decision making authority as much as possible to individual workers. Persons scoring high say that to the extent practical, an effective supervisor permits each subordinate to do the work the way he finds works best for him.

Foreign Service officers and social workers scored high on this scale while policemen scored low.

19. Knowledge of Results

This scale measures the degree to which the individual believes that people are motivated best by knowledge of results (intrinsic motivation). Persons scoring high say that a supervisor gets the best results from his work group when he shows the employees the importance of their work. Persons scoring low say a supervisor gets the best results through rewards or punishment (extrinsic motivation).

On one study it was found that social workers scored highest on this scale and juvenile court judges scored low.

20. External Controls

This scale measures the degree to which the individual believes that most people require external controls. Individuals scoring high say that most people prefer a supervisor who tells them clearly what to do; and believes that parents get the best results when they maintain strict discipline.

It correlated positively with the MMPI Hypomania scale (-.33). Business executives and police patrolmen scored high on this scale and social workers scored low.

F. Information Processing Style

21. Systematic-Methodical

This scale measures the degree to which the individual uses systematic-methodical methods for processing information and reaching decisions. Persons scoring high believe that when they have a difficult decision to make and feel that they have enough facts that it is best to spend considerable time reviewing all possible interpretations of the facts before making a decision; they prefer the opportunity for careful consideration of all aspects of the problem and when they have an important problem to consider, they prefer to think it through alone.

It correlated positively with the Edwards Abasement (.51) and the Mathematics part of the co-operative General Culture Test (.50), and negatively with the Edwards Dominance (-.57) and the Q sort based on a comparison between self ratings and ideal ratings (-.49). Engineers and fiscal officers scored high on this scale and personnel officers scored low.

G. Work Preferences

22. Problem Analysis

This scale measures the degree to which the individual likes to analyze situations and develop ingenious solutions to problems. Persons scoring high prefer to be considered ingenious; like to develop new ideas and approaches to problems and situations; and like a job which permits them to be creative and original.

It correlates positively with the Edwards Autonomy scale (.54) and with the Reading Comprehension part of the Ohio State University Psychological Examination (.51). Management interns with the U. S. Government scored high on this scale and police patrolmen low.

23. Social Interaction

This scale measures the degree to which the individual likes work involving interactions with people. Persons scoring high attend parties or social gatherings once a week or oftener; do not like to work apart from other people; frequently entertain groups at home; and enjoyed participation in social affairs while in high school.

It correlated positively with the Edwards Affiliation scale (.61) and negatively with the MMPI Sound Isolation scale (.52). Personnel officers scored high on this scale and engineers low.

24. Mechanical Activities

This scale measures the degree to which the individual likes mechanical activities. Persons scoring high on this scale say they are reasonably skilled craftsmen and enjoy fixing things; like making things with tools; and like hunting and fishing.

It correlated positively with the Kuder Mechanical Scale (.70) and negatively with the MMPI Masculine-Feminine scale (-.58). Engineers scored high on this scale and Foreign Service secretaries low.

25. Supervisory Activities

This scale measures the degree to which the individual likes to plan and supervise the work of other people. Persons scoring high on this scale find that they get along best when they know what they want and work for it; they are generally striving to reach some goal they have established for themselves and like to supervise others in the carrying out of difficult assignments.

Business executives scored high on this scale and Foreign Service officers low.

26. Activity-Frequent Change

This scale measures the degree to which the individual likes to be actively engaged in work providing a lot of excitement, and a great deal of variety. Persons scoring high on this scale say they frequently enjoy taking part in a fight for good causes, sometimes enjoy dangerous situations; work best under a great deal of pressure and tight deadlines; and prefer a job in which there is a great deal of activity and opportunity to make frequent decisions. Persons scoring low like to finish one task before starting another.

It correlated positively with the MMPI Hypomania (.43) and the Edwards Dominance (.42) scales, and negatively with the Edwards Abasement (-.52), Interspection (-.49), and the MMPI Social Isolation (-.35) scales. The presidents of business corporations scored high on this scale and the Foreign Service code clerks low.

27. Group Participation

This scale measures the degree to which the individual identifies himself with a highly valued group. Persons scoring high say they like best to work as a member of a group and do not like to work apart from other people.

Social workers were found to score significantly higher than lawyers.

H. Values

28. Status Attainment

This scale measures the degree to which the individual values himself by his achievement of the status symbols established by his culture. Persons scoring high on this scale prefer to be considered ambitious and successful; like to have a job which is recognized to be important or desirable; and think that the ideal job is one which shows they were a success and had achieved high status and prestige.

It correlated negatively with the Edwards Nurturance scale (-.51). Presidents of business corporations scored high on this scale and Peace Corps volunteers scored low.

29. Social Service

This scale measures the degree to which the individual values himself by contributing to social improvement. Persons scoring high like to be considered understanding and charitable; consider the social usefulness of the work to be important, and like work which permits them to be helpful to others.

It correlated positively with the Edwards Nurturance (.40) and Kuder Social Service (.33) scales. Social workers and juvenile court judges scored high and business executives low.

30. Approval from Others

This scale measures the degree to which the individual values himself by obtaining the approval of others. Persons scoring high consider it most important to have congenial co-workers; to be well liked; and like to please others through their work; and like to be considered gracious, attractive and pleasant.

It correlated positively with the Edwards Affiliation scale (.54) and the Kuder Clerical (.46) and Social Service (.43) scales, and negatively with the Kuder Outdoor (-.50), Scientific (-.44), and Mechanical (-.43) scales, and the Edwards Achievement scale (-.44). High school counselors and social workers scored high on this scale and engineers scored low.

31. Intellectual Achievement

This scale measures the degree to which the individual values himself through his intellectual attainments. Persons scoring high like work which permits them to be creative and original; like to be considered ingenious, imaginative, intelligent, and brilliant; and believe that it is important to be intelligent and resourceful as opposed to having faith in something, or being kind and considerate.

It correlated positively with the Edwards Dominance scale (.42) and the Co-operative General Culture Test (.40) and negatively with the Kuder Clerical scale (-.42). Foreign Service officers and management interns scored high on this scale and code clerks and policemen scored low.

32. Maintain Societal Standards

This scale measures the degree to which the individual values himself by helping to maintain standards established by the society of which he is part; persons scoring high say that it is important in their work to have the opportunity to apply professional standards; that when someone makes a grammatical mistake, he should be corrected so that he knows what is right; and that competent co-workers are important to them in a job.

No data is available regarding the correlations between this scale and scales from other instruments. Nurses and social workers scored high on it and Foreign Service officers scored low.

33. Role Conformity

This scale measures the degree to which the individual values himself according to how successfully he has conformed to the role requirements of the society. Persons scoring high say that they prefer to be considered reliable, dependable, trustworthy, and industrious.

No data is available regarding the correlations between this scale and scales from other instruments. Policemen scored high on this scale.

I. Other

34. Academic Achievement

This scale measures the degree to which the individual does well in acadmic situations. Persons scoring high on this scale received excellent grades in high school and were honor students in college; and report that they are at their best during a written examination.

It correlated positively with the General Ability sub-test of the Foreign Service officers Examination (.49), the Science sub-test of the cooperative General Culture Test (.60) and Reading Comprehension sub-test of the Ohio State University Psychological Examination (.54). Research engineers, management interns, and Foreign Service officers scored highest and policemen scored lowest.

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